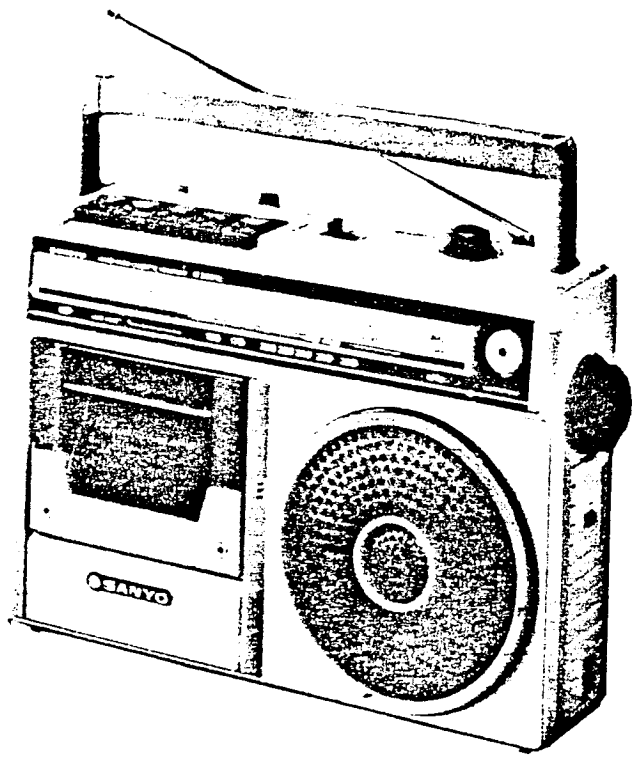
SERVICE MANUAL

CASSETTE RECORDER

SANYO

M2801L

(UK)



SPECIFICATIONS

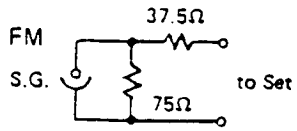
Frequency range	FM: 87.5 – 108MHz MW: 525 – 1.605KHz LW: 150 – 285kHz
Output power	2.0W maximum (music power)
Power source	DC: 6V "HP-2" (UM-1) x 4 AC: 240V, 50Hz
Dimensions	303(W) x 89(D) x 212(H) mm (11-15/16" x 3-9/16" x 8-3/8")
Weight	Approx. 2.18kg (4 lbs. 13 ozs.) including batteries

* Specifications subject to change without notice.

TUNER ADJUSTMENT

GENERAL ADJUSTMENT CONDITIONS

Standard Output Level: 50 mW (0.45V/4 ohms)
Standard Modulation: MW, LW 400Hz 30% Mod. FM 400Hz 22.5kHz Dev.
Load Impedance: 4 ohms
Power Source: DC 6V
Dummy Antenna
MW, LW
I.R.E. Loop



NOTE: Use screwdriver with plastic grip for all adjustment.

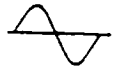
MW ADJUSTMENT

Step	Adjustment	Connections		Position of Tuning Dial	Parts of Adjustment	Standards of Adjustment	Adjustment for
		Input.	Output				
1	I.F.	Connect AM SG to Loop Antenna	Connect V.T.V.M. to Speaker terminals	Near Low End under no signal	T304, T305	470 kHz	Maximum reading on V.T.V.M.
2	Tuning Coverage			Low End	L114	517 kHz	
				High End	VCT-4	1650 kHz	
3	Tracking			600 kHz	L111-b	Max. Sensitivity	
				1400 kHz	VCT-3	Max. Sensitivity	
4	Repeat adjustment.						

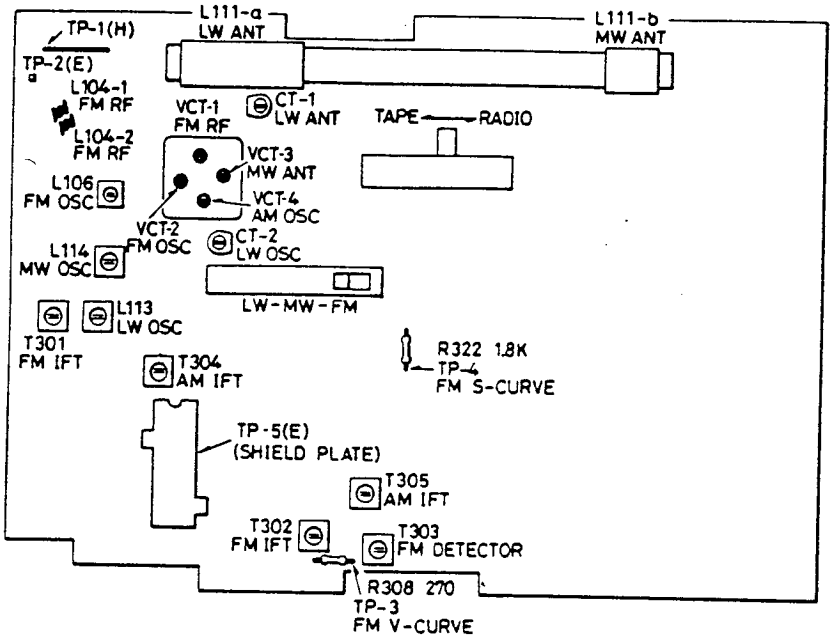
LW ADJUSTMENT

Step	Adjustment	Connections		Position of Tuning Dial	Parts of Adjustment	Standards of Adjustment	Adjustment for
		Input.	Output				
1	Tuning Coverage	Connect AM SG to Loop Antenna	Connect V.T.V.M. to Speaker terminals	Low End	L113	145 kHz	Maximum reading on V.T.V.M.
				High End	CT-2	295 kHz	
2	Tracking			160 kHz	L111-a	Max. Sensitivity	
				280 kHz	CT-1	Max. Sensitivity	
3	Repeat adjustment.						

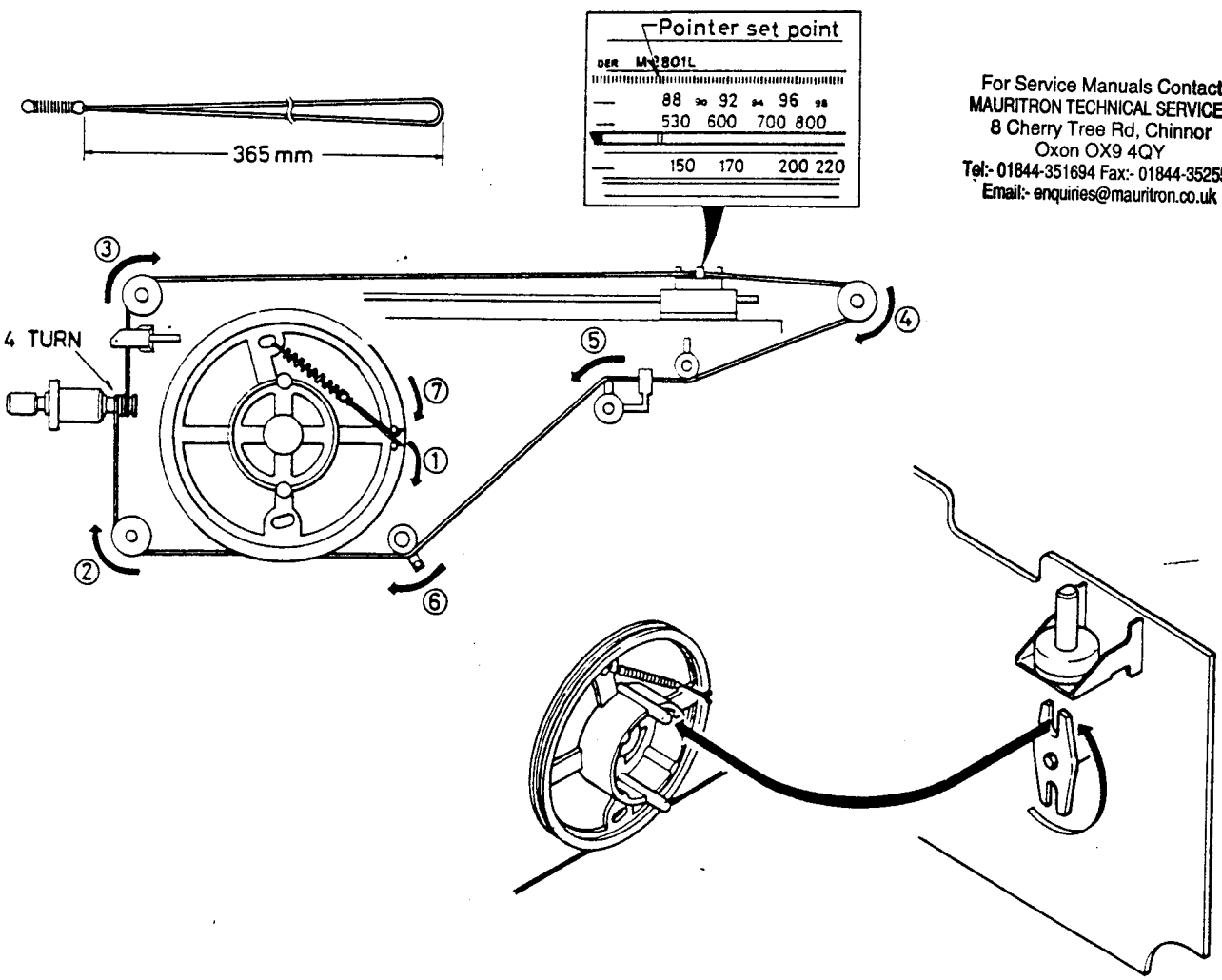
FM ADJUSTMENT

Step	Adjustment	Connections		Position of Tuning Dial	Parts of Adjustment	Standards of Adjustment	Adjustment for
		Input	Output				
1	I.F.	Connect Output terminals of FM IF Sweep to TP1 (H) and TP2 (E)	Connect Input terminals of FM IF Sweep to TP3 (H) and TP5 (E)	Near 98 MHz under no signal	T301 T302	10.7 MHz (Center Frequency of Ceramic Filter)	Wave form as shown below
2	Detector		Connect Input terminals of FM IF Sweep to TP4 (H) and TP5 (E)		T303	10.7 MHz (Center Frequency of Ceramic Filter)	Wave form as shown below 
3	Tuning Coverage	Connect FM SG to TP1 (H) and TP2 (E)	Connect V.T.V.M. to Speaker terminals	Low End	L106	87.35 MHz	Maximum reading on V.T.V.M.
				High End	VCT-2	108.9 MHz	
4	Tracking			90 MHz	L104-1, L104-2	Max. Sensitivity	
				106 MHz	VCT-1	Max. Sensitivity	
5	Repeat adjustment.						

PARTS LOCATION



DIAL CORD STRINGING



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
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Tel:- 01844-351694 Fax:- 01844-352554
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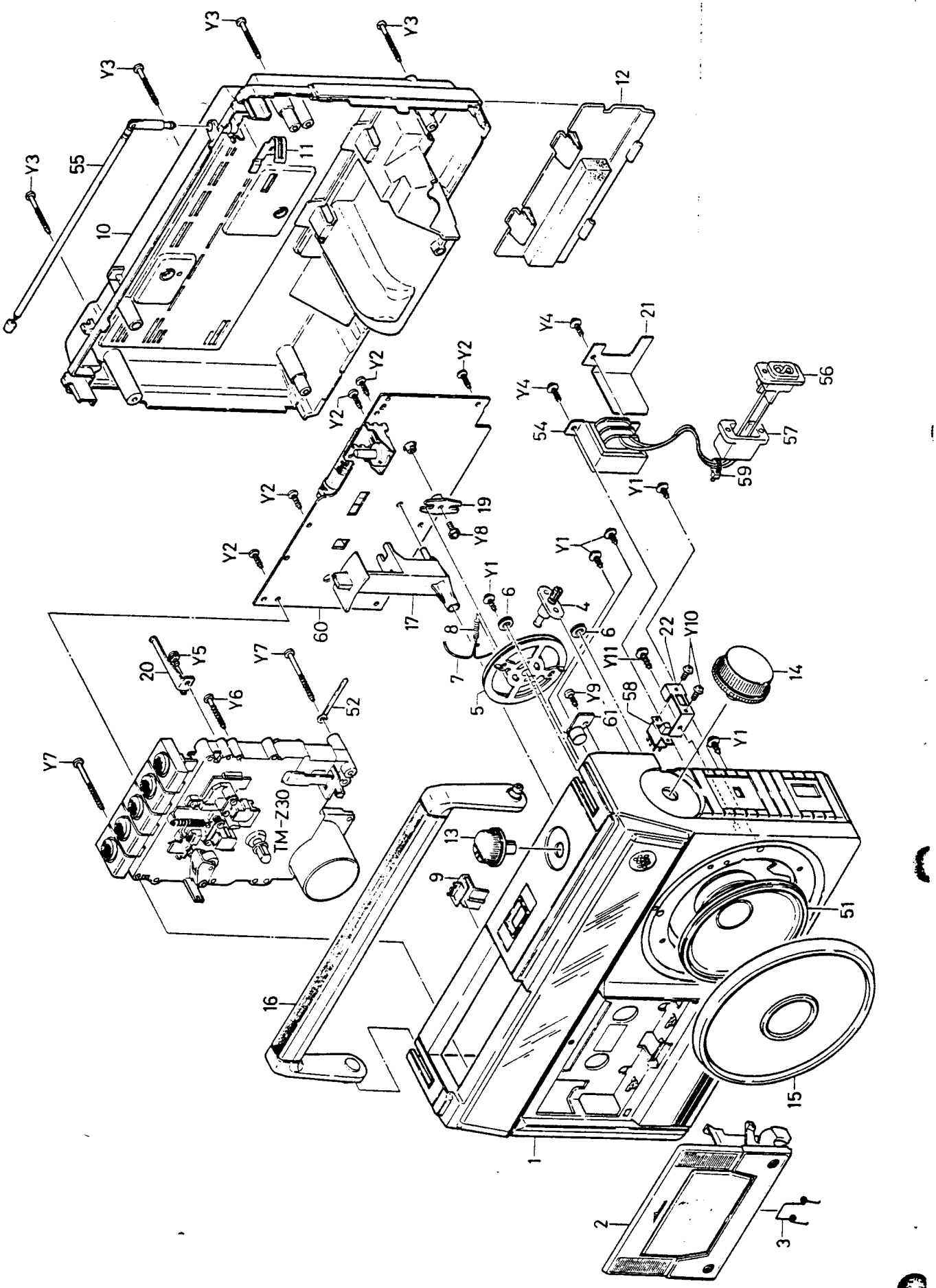
EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKING			
	141-6-133T-25907	Individual Carbon	1
	141-6-144T-75200	Foam Plastic Case, R	1
	141-6-144T-75300	Foam Plastic Case, L	1
	141-6-231T-35401	Inner Polye Cover, Set.	1
ACCESSORY			
	141-6-410T-62305	Instruction Manual	1
	4-243T-77481	Power Cord	1
CABINET			
1	141-0-111T-49707	Cabinet Ass'y	1
2	141-2-124T-33000	Top Lid	1
3	141-2-855T-67900	Spring Coil	1
4	141-0-566T-09100	Tuning Shaft Ass'y	1
5	141-2-538T-12900	Drum	1
6	141-2-661T-19200	Pulley	2
7	141-2-340T-03000	Rope	1
8	123-2-481R-10300	Spring Coil	1
9	141-2-511T-20900	Pointer	1
10	141-0-126T-35110	Back Lid Ass'y	1
11	141-2-853T-69900	Spring Plate	1
12	141-0-128T-16801	Battery Lid Ass'y	1
13	141-2-163T-75000	Rotary Knob, Volume	1
14	141-2-163T-75100	Rotary Knob, Tuning	1
15	141-2-153T-74700	Escutcheon, SP	1
CHASSIS			
16	141-2-171T-17500	Handle	1
17	141-2-742T-59800	Lever, Function	1
19	141-2-363T-04701	Bracket, VC	1
20	141-2-853T-65900	Spring Plate	1
21	141-2-135T-84700	Cover, Socket	1
22	141-2-310T-78300	Bracket, Tone	1
HARDWARE			
Y1		Pan Hd. Tapping Screw W/Washer, 3x8	5
Y3		Pan Hd. Tapping Screw, 3x30	4
Y4		Pan Hd. Tapping Screw W/Washer, 3x10	2
Y5		Pan Hd. Screw W/Spring Washer, 3x4	1
Y6		Pan Hd. Tapping Screw, 3x25	1
Y7		Pan Hd. Tapping Screw, 3x40	2
Y8		Hexagon Hd. Bolt, 2.6x10	1
Y9		Pan Hd. Tapping Screw, 3x8	1
Y11		Pan Hd. Tapping Screw W/Washer 3x12	1
Y12		Pan Hd. Tapping Screw 3x10	5
ELECTRICAL PARTS			
51	4-151T-39072	Speaker	1
52	141-2-472T-01001	Lug	1
54	4-300T-47200 or 4-300T-52300	Power Transformer	1
55	4-244T-05300	Rod Antenna	1
56	4-240T-18300	Socket	1
57	141-2-135T-32271	Cover	1
58	4-238T-53500	Switch, Tone	1
59	141-2-464T-20600	Fixer	1

Ref. No.	Part No.	Description	Q'ty
AMP/TUNER PCB ASS'Y			
60	141-4-250T-54100	P.C.B. Ass'y Amp/Tuner	1
	TUNER SECTION		
L101,102	4-265R-00410	VHF Coil	2
L103	4-265R-01210	VHF Coil	1
L104-1, 104-2	4-265R-13610	VHF Coil	2
L105	4-265R-12710	VHF Coil	1
L106	4-265T-51310	VHF Coil	1
L113	4-258T-34310	OSC Coil	1
L114	4-258T-27710	OSC Coil	1
T301	4-256R-20810	IFT	1
T302	4-256R-15110	IFT	1
T303	4-256R-02310	IFT	1
T304	4-256T-11210	IFT	1
T305	4-256R-00210	IFT	1
CF301	4-256T-80400 4-256T-80471 4-256T-80472 4-256T-80473 4-256T-80474	} or IF Filter	1
CF302	4-256T-81172	IF Filter	1
	4-224T-20300	Variable Capacitor	1
CT-1,CT-2	4-224T-15471	Trimmer	2
L111-A,B	4-257T-47001	Ant Coil Ass'y	1
	4-238T-11300	Switch	1
	141-2-322T-40300	Shield Plate	1
Q101		Transistor 2SC930 RF	1
Q102		Transistor 2SC930 CONV	1
IC301		IC μPC 1018CE	1
D101,102 103		Diode DS442X or IS2473	3
D301,302		Diode IN60FM	2
D303		Diode IN60AM	1
D304		Zener Diode RD4.7E B3	1
	RESISTORS		
R101		Carbon 470 ohm ±10% 1/4W	1
R102,105		Carbon 470K ohm ±10% 1/4W	2
R103,108 132		Carbon 100 ohm ±10% 1/4W	3
R104		Carbon 1.5K ohm ±10% 1/4W	1
R106,301		Carbon 220 ohm ±10% 1/4W	2
R107		Carbon 1.8K hom ±10% 1/4W	1
R137,305 330		Carbon 82 ohm ±10% 1/4W	3
R138		Carbon 68 ohm ±10% 1/4W	1
R302,304		Carbon 560 ohm ±10% 1/4W	2
R303		Carbon 330 ohm ±10% 1/4W	1
R311,312		Carbon 5.6K ohm ±10% 1/4W	2
R306		Carbon 4.7K ohm ±10% 1/4W	1
R307,329		Carbon 150 ohm ±10% 1/4W	2
R308		Carbon 270 ohm ±10% 1/4W	1
R309,310		Carbon 1K ohm ±10% 1/4W	2
R313		Carbon 12K ohm ±10% 1/4W	1
R316		Carbon 47K ohm ±10% 1/4W	1
R317		Carbon 15K ohm ±10% 1/4W	1
R319		Carbon 47 ohm ±10% 1/4W	1
R320,322		Carbon 1K ohm ±10% 1/4W	2
R321		Carbon 10K ohm ±10% 1/4W	1
R326		Carbon 8.2K ohm ±10% 1/4W	1
R328		Carbon 10 ohm ±10% 1/4W	1
R327		Carbon 27K ohm ±10% 1/4W	1
	CAPACITORS		
C102		Ceramic 20pF 50V ±10%	1
C103		Ceramic 15pF 50V ±10%	1
C104		Ceramic 33pF 50V ±10%	1
C105		Ceramic 470pF 50V ±10%	1
C106,107 108,110 111,114 115		Ceramic 0.01μF 50V +80–20%	7
C109		Ceramic 22pF 50V ±10%	1
C116		Ceramic 10pF 50V NPO ±10%	1
C118		Ceramic 15pF 50V N470 ±10%	1
C112		Ceramic 330pF 50V ±10%	1
C119		Ceramic 4pF 50V ±0.5pF	1

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PARTS LIST

Ref. No.	Part No.	Description	Q'ty
AMP/TUNER PCB ASS'Y			
C133		Ceramic 8pF 50V ±0.5pF	1
C142		Ceramic 120pF 50V N220 ±10%	1
C143		Ceramic 4pF 50V N2200 ±10%	1
C146		Ceramic 100pF 50v ±10%	1
C302,303 315,316 317		Ceramic 0.022μF 50V +80–20%	5
C305		Ceramic 30pF 50V N750 ±10%	1
C308		Ceramic 220pF 50V ±10%	1
C311		Ceramic 680pF 50V ±10%	1
C117		BC Con 0.01μF 25V ±20%	1
C136,145 147		BC Con 0.0047μF 25V ±20%	3
C144,304		BC Con 0.022μF 25V ±20%	2
C301		BC Con 0.0022μF 25V ±20%	1
C306		BC Con 0.01μF 25V/ ±20%	1
C318		BC Con 0.015μF 25V ±20%	1
C322		BC Con 0.068μF 25V ±20%	1
C307,327		Electrolytic 1μF 50V	2
C313		Electrolytic 10μF 16V	1
C314		Electrolytic 47μF 10V	1
C321		Electrolytic 470μF 6.3V	1
C329		Electrolytic 220μF 10V	1
C113		Ceramic 30pF 50V ±10%	1
C148		Ceramic 100pF 50V ±10%	1
C325		BC Con 0.0068μF 25V ±20%	1
	AMP SECTION		
	4-235T-05571	Socket, Ext, Mic, Ext. SP	2
	4-231T-76700	Switch, Radio/Tape	1
	4-231T-61400	Switch, R/P	1
	4-222T-90000	Variable Resistor, Volume	1
IC701		IC LA4100S	1
Q701		Transistor 2SC536	1
D701		Diode DS135E	1
	RESISTORS		
R706		Carbon 560K ohm ±10% ¼W	1
R711		Carbon 39K hom ±10% ¼W	1
R703		Carbon 47K ohm ±10% ¼W	1
R717		Carbon 33K ohm ±10% ¼W	1
R718		Carbon 27K ohm ±10% ¼W	1
R702		Carbon 12K ohm ±10% ¼W	1
R709		Carbon 10K ohm ±10% ¼W	1
R707		Carbon 5.6K ohm ±10% ¼W	1
R704		Carbon 4.7K ohm ±10% ¼W	1
R716		Carbon 2.2K ohm ±10% ¼W	1
R701		Carbon 1K ohm ±10% ¼W	1
R721		Carbon 100 ohm ±10% ¼W	1
R705		Carbon 68 ohm ±10% ¼W	1
R708		Carbon 22K ohm ±10% ¼W	1
R720,714		Carbon 27 ohm ±10% ¼W	2
R725		Carbon 3.9K ohm ±10% ¼W	1
R724		Carbon 1.5K ohm ±10% ¼W	1

Ref. No.	Part No.	Description	Q'ty
AMP/TUNER PCB ASS'Y			
R710		Carbon 1.8K ohm ±10% ¼W	1
	CAPACITORS		
C717		Electrolytic 220μF 6.3V	1
C729		Electrolytic 2200μF 10V	1
C718		Electrolytic 100μF 10V	1
C723		Electrolytic 220μF 6.3V	1
C702		Electrolytic 100μF 6.3V	1
C721		Electrolytic 100μF 16V	1
C716		Electrolytic 47μF 16V	1
C703,713 708		Electrolytic 1μF 25V	3
C740		Electrolytic 470μF 10V	1
C701		Electrolytic 0.22μF 50V	1
C735		Electrolytic 0.15μF 50V	1
C704,709 715		Ceramic 0.0022μF 50V ±10%	3
C714		Ceramic 0.001μF 50V ±10%	1
C720		Ceramic 820pF 50V ±10%	1
C719		Ceramic 220pF 50V ±10%	1
C705		Ceramic 82pF 50V ±10%	1
C725,726		Ceramic 0.022μF 50V +80–20%	2
C745		BC Con 0.068μF 25V ±20%	1
C722		BC Con 0.15μF 25V ±20%	1
C741		Electrolytic 4.7μF 16V	1
MICROPHONE PCB ASS'Y			
61	141-4-250T-54200	P.C. Board Ass'y Mic.	1
58	4-153T-12800	Microphone	1

MECHANISM ADJUSTMENT

ADJUSTMENT OF HEAD AZIMUTH

1. Connect the unit to a power source and insert a test cassette tape (6.3 KHz pre-recorded) in the cassette compartment.
2. Connect an 4 ohm dummy load with the VTVM across it to the EXT. SP jack on the unit.
3. Set the unit into the PLAY mode.
4. Turn the head azimuth adjusting screw until the maximum value with reading on the VTVM.
5. Fasten the adjusting screw securely by applying paint or glue.

TORQUE ADJUSTMENT

1. Set the unit to the PLAY, FAST FORWARD or REWIND mode.
2. Messure the each torque with a torque gauge. They should be as following;

PLAY	30 – 65 g/cm
FAST FORWARD	60 – 130 g/cm
REWIND	60 – 130 g/cm

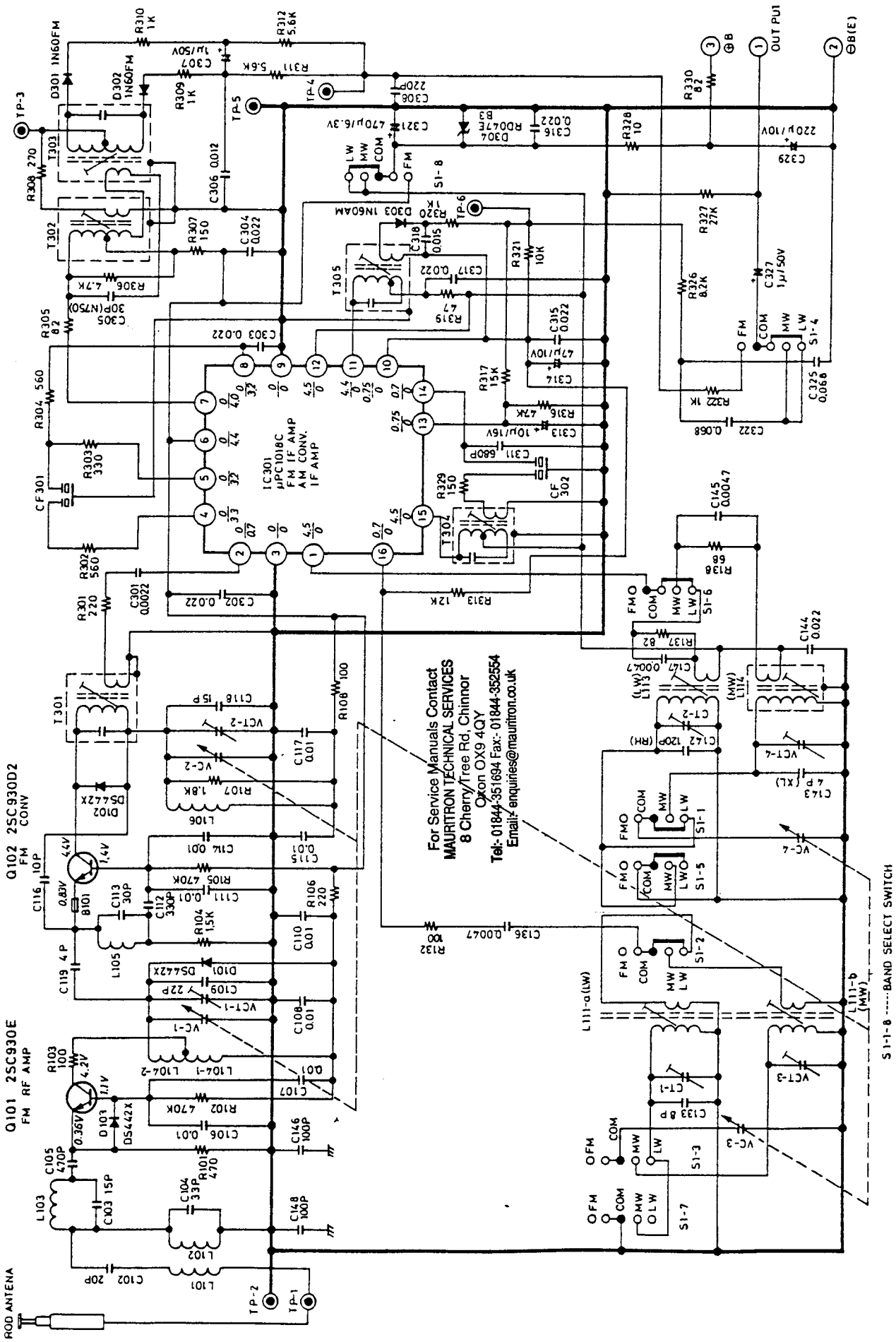
3. If the each torque fails to reach the standard value. Clean the drive belt, flywheel, motor pulley, take-up reel, idler and rewind roller with a cotton swab soaked in alcohol.

AUTO-STOP ADJUSTMENT

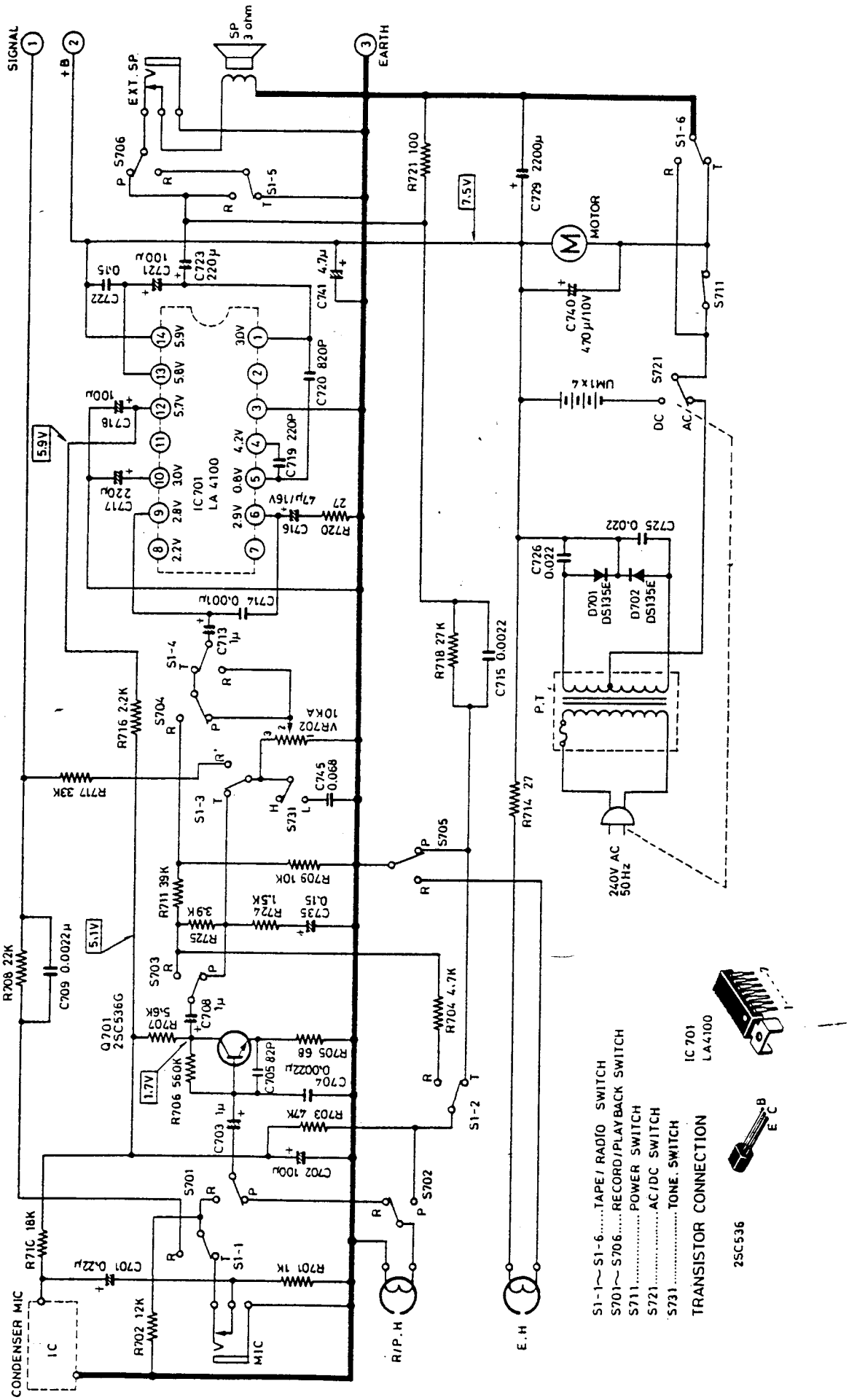
Measure the senser pressure with a tension gauge with the unit set in the playback mode. The unit should be shut off when the senser pressure stand within a range of 40 to 65 grams.

If the shut-off mechanism fails to function at a senser pressure of 40 to 65 grams, adjust the spring coil (Mechanism No. 57).

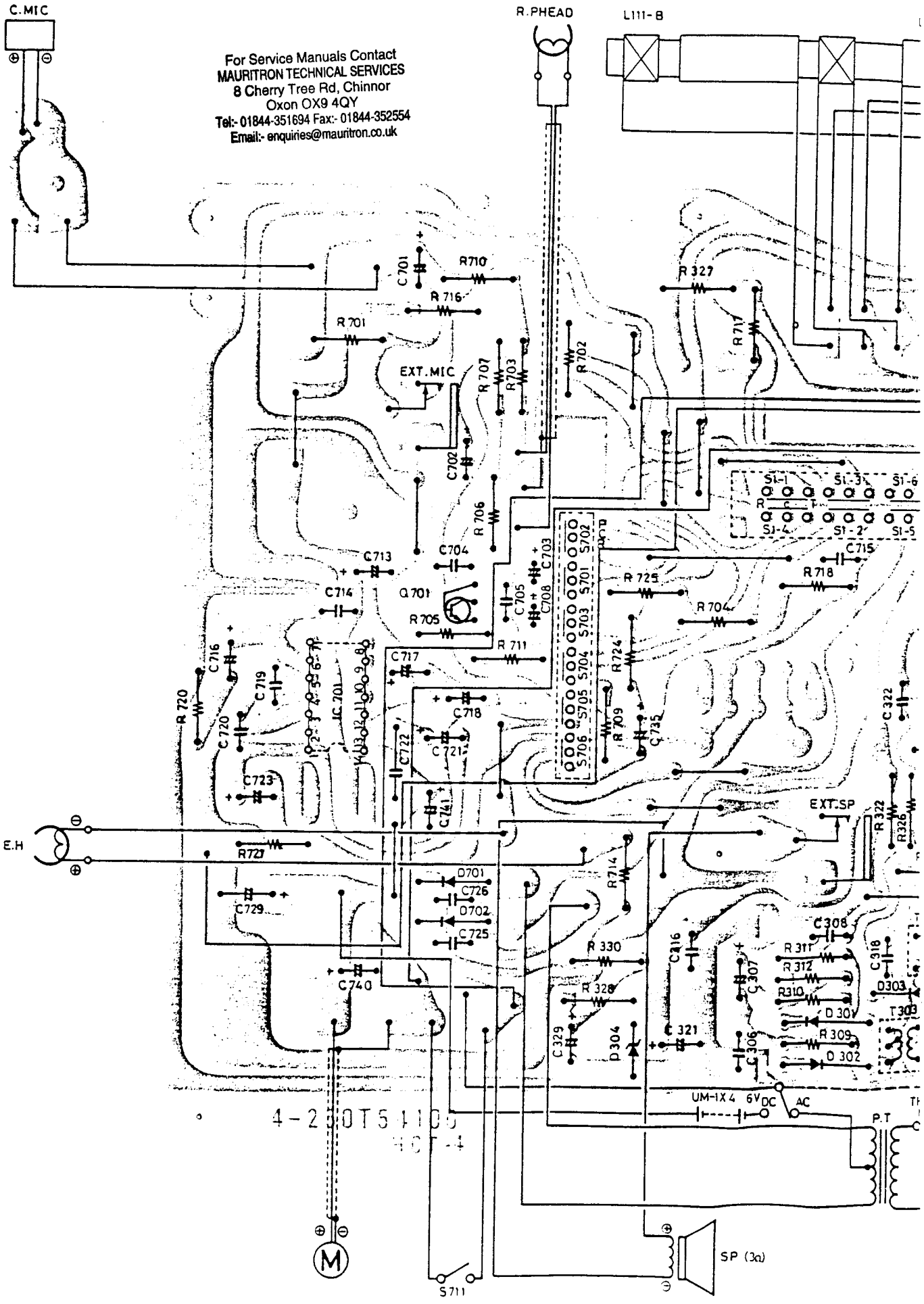
SCHEMATIC DIAGRAM (TUNER)



SCHEMATIC DIAGRAM (AMP)



WIRING DIAGRAM



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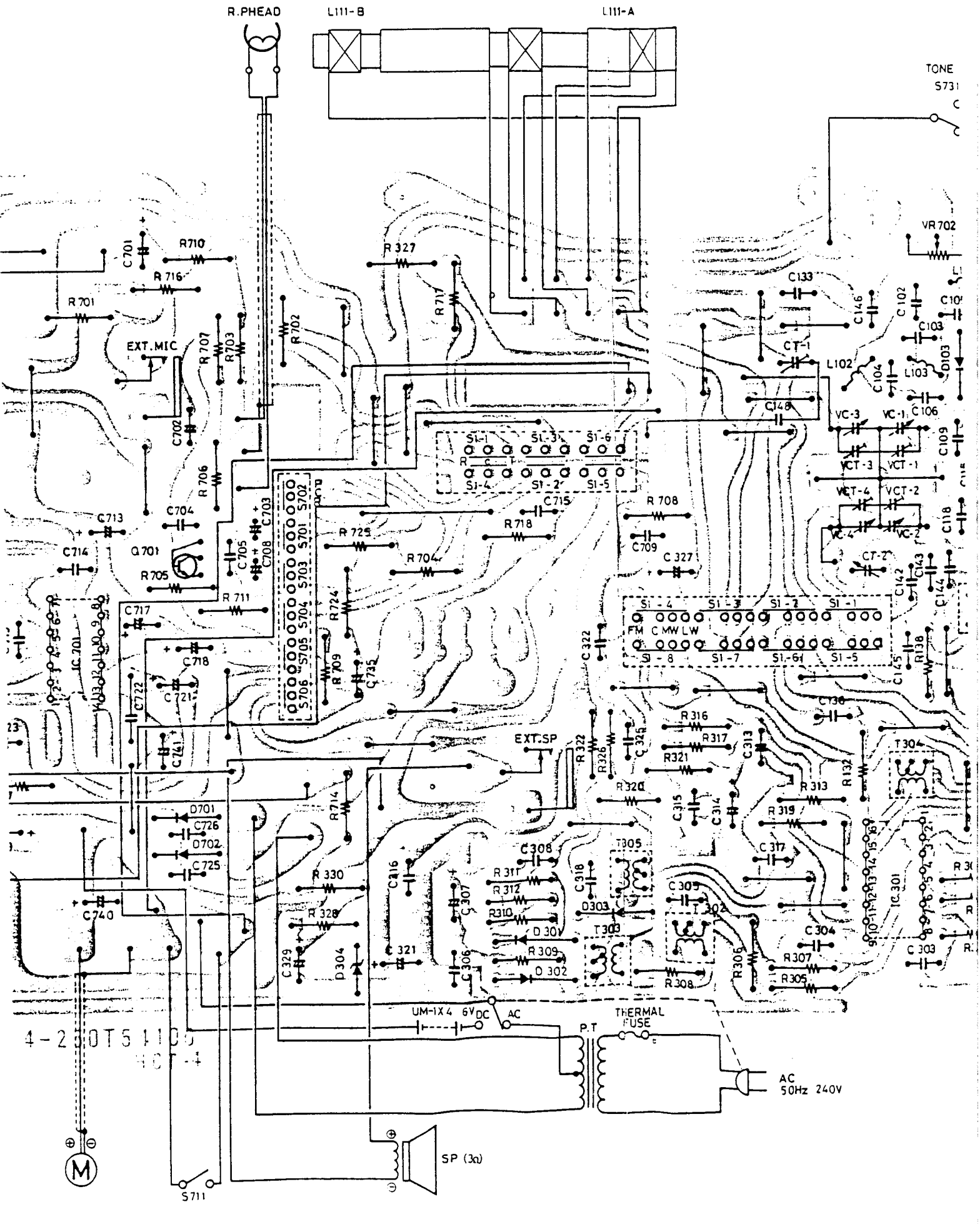
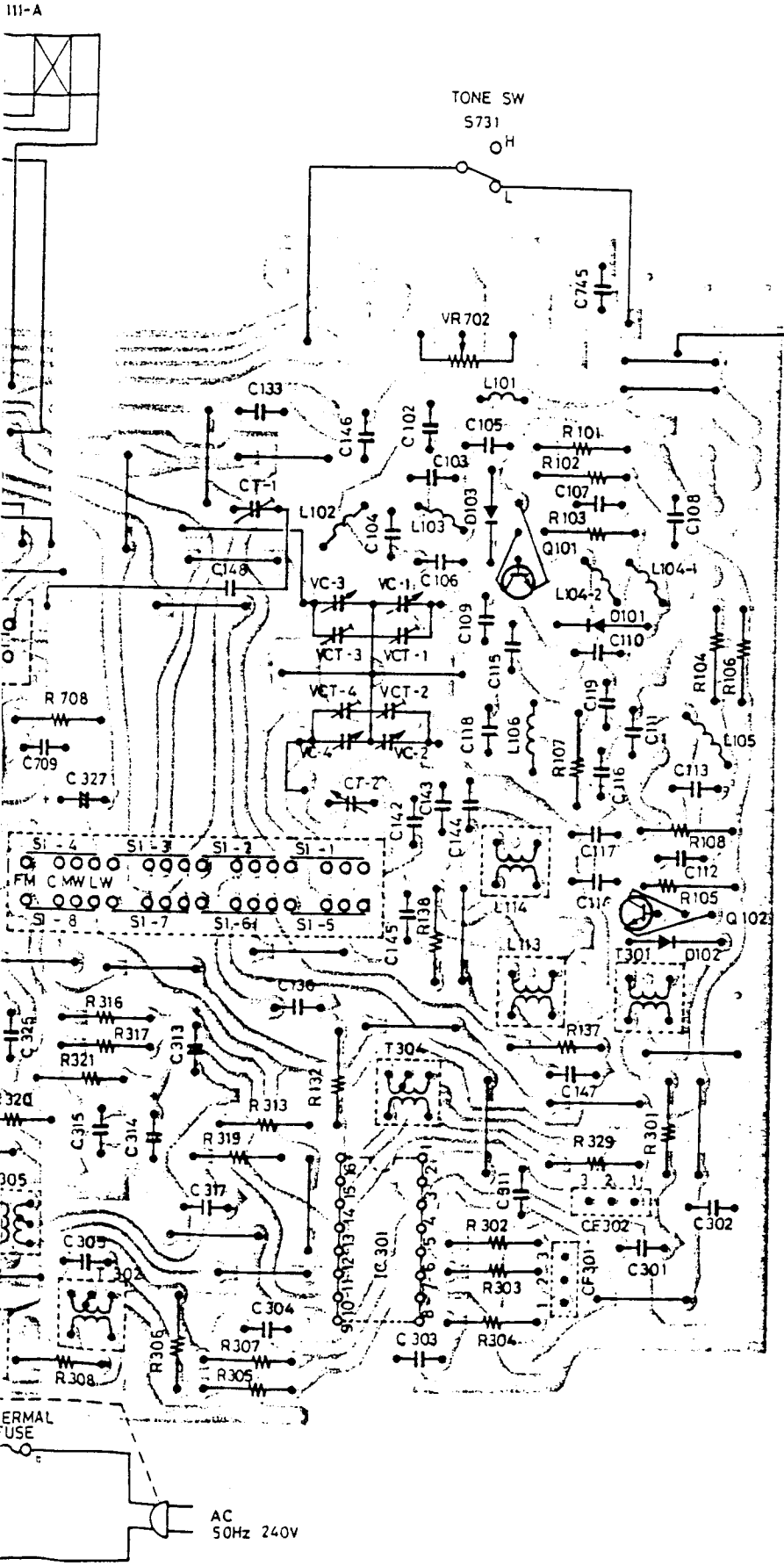
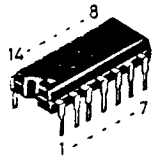

R.PHEAD
L111-B
L111-A
TONE
S731
VR702
C133
C146
C102
C103
CT-1
L102
C104
L103
D103
C148
VC-3
VC-1
C106
C109
VCT-3
VCT-1
VCT-4
VCT-2
VC-4
VC-2
CT-2
C118
C143
C142
C144
C138
C145
R138
R132
T304
R313
R319
C317
C313
C314
C315
R316
R317
R321
R320
C322
R322
R326
C325
EXT.SP
R330
R328
C329
D304
C321
C316
C307
C306
R311
R312
R310
D301
R309
D302
C308
C318
D303
T305
T303
T302
C305
R308
R306
R307
R305
C304
C303
IC 301
R
C701
R710
R716
R701
EXT.MIC
R707
R703
R702
R717
R327
C702
R706
C704
C713
C714
Q701
R705
C705
C708
C703
S702
S701
S703
S704
S705
S706
R725
R704
C715
R718
R708
C709
C327
R724
R709
C735
R711
C717
C718
C722
C721
C741
IC 701
D701
C726
D702
C725
R714
C740
S1-1
S1-3
S1-6
S1-4
S1-2
S1-5
S1-4
S1-3
S1-2
S1-1
FM C MW LW
S1-8
S1-7
S1-6
S1-5
UM-1X4 6V DC
AC
THERMAL FUSE
P.T
AC
50Hz 240V
SP (3Ω)
S711
M

111-A

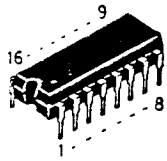


TRANSISTOR CONNECTION
2SC536
2SC930

IC CONNECTION
LA4100S



μPC1018CE



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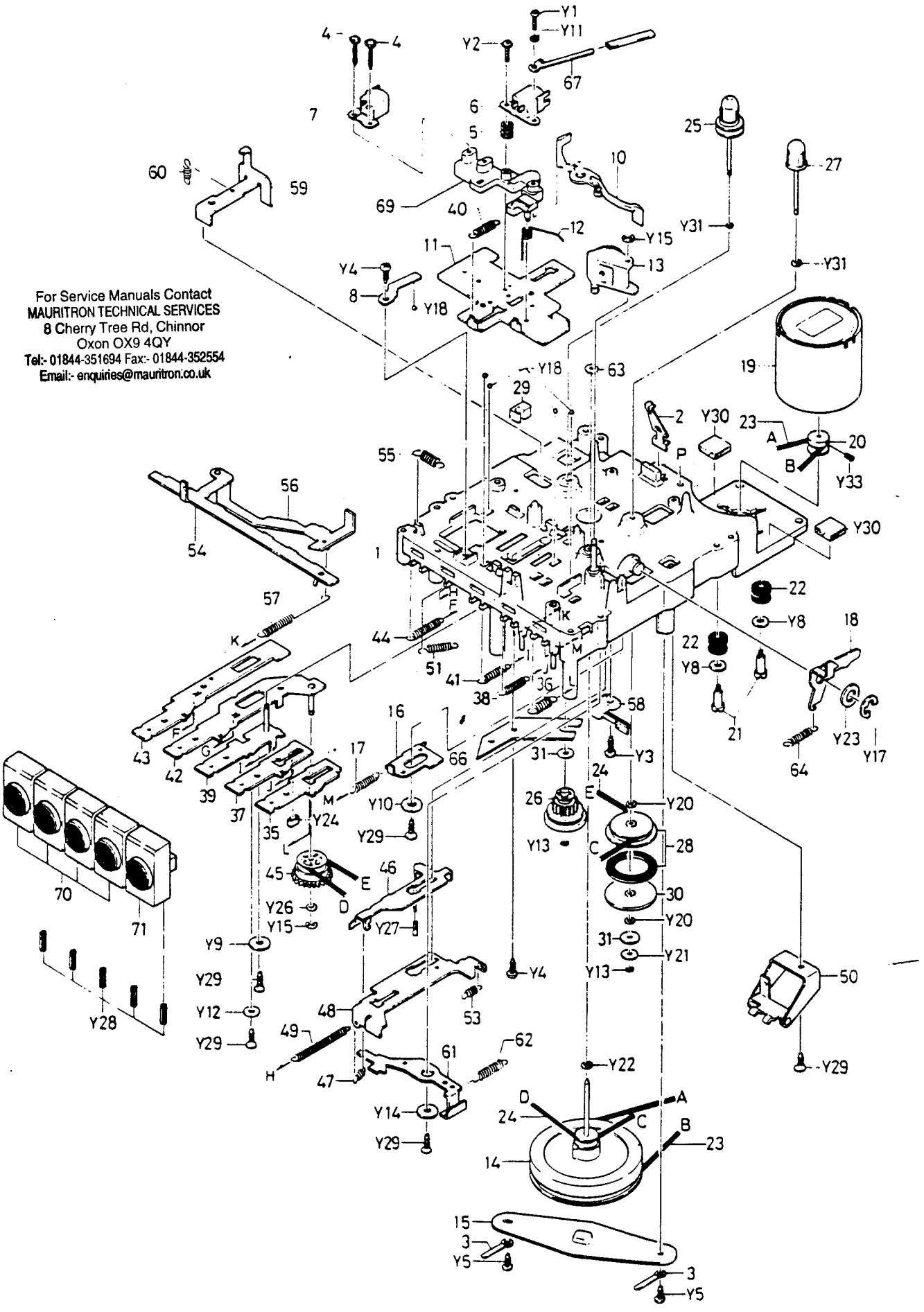
EXPLODED VIEW (MECHANISM)



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PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MECHANISM (TM-Z30)			
1	141-0-311T-19310	Chassis Ass'y	1
2	141-2-853T-46900	Spring Plate	1
4	141-2-421T-28000	Special Screw	2
5	141-2-851T-82700	Spring Coil	1
6	4-242T-18880	R/P Head	1
7	4-242T-22080	E Head	1
8	141-2-853T-53200	Spring Plate	1
10	141-2-721T-03900	Lever Shaft-off	1
11	141-2-731T-37500	Slide, Head	1
12	141-2-852T-35300	Spring Wire	1
13	141-0-545T-04000	Lever Ass'y, Pinch Roller	1
14	141-0-521T-08901	Flywheel Ass'y	1
15	141-0-524T-06303 141-0-524T-06304	or Bracket A'ssy Flywheel	1
16	141-2-742T-08202	Lever	1
17	141-2-851T-80100	Spring Coil	1
18	141-2-741T-80900	Lever	1
19	4-527T-16100 4-527T-17200	or Motor	1
20	141-2-661T-65701 141-2-661T-65702 141-2-661T-65704 141-2-661T-65705	or Motor Pulley	1
21	141-2-421T-23900	Special Screw	2
22	141-2-445T-07000	Rubber Cushion	2
23	141-2-564T-15402	Square Belt, Main	1
24	141-2-564T-16503	Square Belt, Drive	1
25	141-0-531T-11300	Reel Plate Ass'y	1
26	141-0-661T-22702	Pulley Ass'y	1
27	141-0-531T-11200	Reel Plate Ass'y	1
28	141-0-661T-22900	Pulley Ass'y	1
29	141-2-461T-28400	Pipe	1
30	141-2-661T-23001	Pulley	1
31	141-2-457T-06200	Special Washer	2
35	141-2-731T-43301	Slide	1
36	141-2-851T-73501	Spring Coil	1
37	141-2-731T-43401	Slide	1
38	141-2-851T-93002	Spring Coil	1
39	141-0-731T-43500	Slide Ass'y	1
40	141-2-851T-91300	Spring Coil	1
41	141-2-851T-96400	Spring Coil	2
42	141-0-731T-43600	Slide Ass'y	1
43	141-2-731T-43701	Slide	1
44	141-2-851T-93002	Spring Coil	1
45	141-2-661T-22600	Pulley	1
46	141-2-731T-43101	Slide	1
47	141-2-855T-00200	Spring Coil	1
48	141-2-731T-51101	Slide	1
49	141-2-855T-00601	Spring Coil	1
50	141-0-741T-90900	Lever Ass'y	1
53	141-2-851T-96200 141-2-855T-01900 141-2-855T-12400	or Spring Coil	1
54	141-0-731T-37300	Slide Ass'y	1
55	141-2-855T-54500	Spring Coil	1
56	141-2-741T-78400	Lever	1
57	141-2-851T-91201	Spring Coil	1
58	4-231T-61601	Switch	1
59	141-2-741T-61000	Lever	1
60	141-2-851T-87701	Spring Coil	1
61	141-2-742T-08102	Lever	1
62	141-2-851T-56100	Spring Coil	1
63	141-2-457T-04300	Special Washer	1
64	141-2-855T-03000	Spring Coil	1
65	141-2-472T-01201	Lug	2
66	141-2-853T-49000	Spring Plate	1
67	141-2-472T-07100	Lug	1
69	141-2-375T-06900	Bracket, Head	1
70	141-2-161T-86400	Push Button	4
71	141-2-161T-86430	Push Button	1
72	141-2-421T-24700	Special Washer	2

Ref. No.	Part No.	Description	Q'ty
HARDWARE			
Y1		Pan Hd. Screw 2x12	1
Y2		Pan Hd. Screw W/Washer 2x12	1
Y3		Binding Hd. Tapping Screw 2.3x8	1
Y4		Pan Hd. Tapping Screw 3x6	2
Y5		Pan Hd. Tapping Screw 3x8	2
Y9		Washer 3x12x1t	1
Y10		Washer 4x10x0.8t	1
Y11		Spring Washer 2x4.4x0.5t	1
Y12		Washer 3x10x1t	1
Y13	141-2-457T-23700	Special Washer, "E" Ring 1.2	2
Y14		Washer 3x13x1t	1
Y15	141-2-457T-23000	Special Washer, "E" Ring 2	2
Y17	141-2-457T-23200	Special Wahser "E" Ring 4	1
Y18	141-2-345T-00400	Steel Ball	5
Y20	141-2-453T-30101	Washer 2.6x4.0x0.25 Nylon	2
Y21	141-2-453T-31200	Washer 2x8.5x0.2t Poly	1
Y22	141-2-453T-30201 141-2-453T-30202	or Washer 2.6x4.7x0.25	1
Y23	141-2-453T-30802	Washer 6.2x9.5x0.5 Nylon	1
Y24	141-2-490T-08301	Tube	3
Y26	141-2-453T-30201	Washer 2.6x4.7x0.25	1
Y27	141-2-490T-05000	Tube	6
Y28	141-2-488T-01801	Pin 1.5x8x0.3	5
Y29		Flat Hd. Tapping Screw 3x8	4
Y30	141-2-447T-36000	Cushion	2
Y31	141-2-457T-11002	Special Washer	2
Y33		Set Screw 2x4	1
Y34	141-2-490T-00600	Tube	1

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